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Statistical Report 1987

Sexually Transmitted Disease Control

Alberta
HEALTH

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September, 1988

Overview

Introduction

Sexually Transmitted Disease Control (STD) provides a comprehensive program for the control of sexually transmitted diseases (STD), including AIDS, in Alberta. The division makes available diagnostic and treatment services through clinics located in Edmonton and Calgary. Although operated under the auspices of the health unit, the Fort McMurray clinic provides the same clinic services to that city and its surrounding area. STD Control also provides epidemiologic services, public and professional education, consultation to physicians, data monitoring, disease surveillance, clinical research and is responsible for the Alberta AIDS program.

The Diseases

Surveillance is maintained for the five notifiable diseases: non-gonococcal urethritis (NGU)/mucopurulent cervicitis (MPC), gonorrhea, syphilis, chancroid and lymphogranuloma venereum. Cases of AIDS are reported to the Medical Officer of Health.

Non-gonococcal urethritis/mucopurulent cervicitis (NGU/MPC) continues to be a major concern. In this the second complete year that NGU/MPC has been reportable, the incidence rate rose by 17.7% to 528/100,000 population. This is of particular concern because the highest age and sex specific rate is found in the 15–19-year-old females in whom the sequelae of pelvic inflammatory disease, and subsequent infertility, is most likely to occur.

Continuing the six-year trend, both the number of cases and the incidence rate for gonorrhea continue to decline. The gonorrhea rate, at 147/100,000 population, is at its lowest point since 1950. Females, aged 15–19, have the highest rate at 805/100,000 population. As with NGU/MPC, this is of concern because of the high risk of negative sequelae, especially pelvic inflammatory disease, infertility and ectopic pregnancy.

Cases of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) in 1987 decreased by 43% over 1986. Only 17 of the 27 infected individuals identified sexual contacts within Canada.

The number of cases of infectious syphilis (primary, secondary and early latent) in 1987 comprised 19.7% of the 132 cases diagnosed. This decline continues from a trend established in 1985.

Three cases of chancroid were diagnosed in 1987. Each individual acquired his infection in an endemic area.

Acquired Immunodeficiency Syndrome (AIDS) continues to be a major concern for the public and health care professionals. During 1987, 41 new cases of AIDS were reported, an 80% increase over the 22 reported in 1986. Of the total cases, 88, or 63% have died.

Human immunodeficiency virus seropositivity is not reportable in Alberta. However, summary test results are provided to the provincial epidemiologist by both the Red Cross Blood Transfusion services and the provincial laboratories in Calgary and Edmonton. Since testing became available in 1986, there has been a total of 563 positive tests in Alberta.

Routine screening of all donated blood has detected 32 HIV seropositives in over a quarter of a million donations. The provincial laboratories have screened 15,018 specimens, of which 3.5% or 531 have been HIV seropositive. Male-to-male sexual contact was the risk factor identified in 68% of the provincial laboratories HIV seropositive specimens; "Other," which includes heterosexual exposure, individuals from endemic areas and those HIV seropositives for which no risk factor is stated, contributed 115 (21.7%); blood transfusion recipients, 30 (5.7%); hemophiliacs 13 (2.5%) and drug abusers 7 (1.3%).

The Programs

Client use of sexually transmitted disease clinics during 1987 varied among clinics. The number of new admissions to Edmonton Clinic increased 7.9% over 1986 while both Calgary and Fort McMurray experienced a decrease (0.7% and 24.3% respectively). However, the clinics in Edmonton and Calgary both recorded an increase in total patient visits compared, to 1986. This could be attributed to the number of individuals attending the clinics for HIV antibody testing which increased by 625% in Edmonton and by 151% in Calgary. Each patient then required a minimum of one follow-up visit to receive results and in-depth information on the implications or the limitations of the results.

Public awareness and education continue to be

a priority of Sexually Transmitted Disease Control. Public and professional concerns with regard to AIDS have provided both medical staff and the education unit with the opportunity to disseminate information not only on AIDS but also on the other sexually transmitted diseases.

Another method of information dissemination is the STD information line and the provincial toll-free AIDS information line which are staffed by nurse educators and nurse investigators. In 1987, 6,971 calls were received on the AIDS and STD information lines.

Reported Cases of Notifiable Diseases
Table 1

Table 1 enumerates the number of cases of each of the five notifiable diseases reported to STD Control in 1987.

The most frequently reported disease is non-gonococcal urethritis/mucopurulent cervicitis (NGU/MPC), with a total number of 12,753 cases. Of these, males contributed 5769 cases and females 6984 cases, giving a male-to-female ratio of 1:1.2

Cases of NGU/MPC increased by 1702 or 15.4% over 1986. 1987 is the second complete year that NGU/MPC has been reportable in Alberta, and this increase may indicate that physicians are recognizing and reporting a higher number of cases. However, it may also indicate a real increase in the number of individuals infected.

The number of cases of gonorrhea continues to decline, following the six-year trend which started in 1982. Male cases exceeded female cases by 209, giving a male-to-female ratio of 1.1:1. This is consistent with last year's ratio of 1.2:1.

The highest number of cases of NGU/MPC by sex and age group was reported in females aged 20–24 years, followed by females aged 15–19 years, males 20–24 years and males 25–29 years.

Gonorrhea, when examined by sex and age group is quite different from NGU/MPC. The highest number of cases was reported in males aged 20–24 years, followed by females 15–19 years, females 20–24 years and males 25–29 years.

Syphilis continues to decrease. The 1987 total of 132 cases is an 18.5% decrease over that of 1986. The number of cases of infectious syphilis (primary, secondary and early latent) comprises 19.7% of total cases. In 1984, 1985 and 1986 infectious syphilis accounted for 84%, 63% and 34% of the total, indicating that new infections are occurring less frequently. Late latent syphilis in 1987 accounted for 97 of 132 cases. The male-to-female ratio of 1.9:1 has risen slightly over last year.

Three cases of chancroid were diagnosed in the province in 1987. Each individual acquired his infection during travel to an endemic area.

TABLE 1

ALBERTA : 1987

CASES OF NOTIFIABLE DISEASES

	< 1		1 - 4		5 - 9		10 - 14		15 - 19		20 - 24		25 - 29		30 - 39		40 - 59		60 +		AGE N/S		TOTAL
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
GONORRHEA			3	1	2	1	5	34	336	717	778	690	498	287	342	150	148	30	17	3	29	36	4107
NGU/MPC			2	3		2	3	68	641	2336	2120	2662	1504	1073	1050	593	354	126	17	10	78	111	12753
CHANCROID											1		2										3
SYPHILIS (TOTAL)					1					2	11	7	15	4	21	9	25	15	13	8		1	132
PRIMARY											4	2	3		3		2						14
SECONDARY											2		2										4
EARLY LATENT											2	1	2	1	1	1							8
LATE LATENT										2	3	4	6	3	17	8	19	13	13	8		1	97
LATE UNSPECIFIED																							
NEURO SYPHILIS													2				2	2					6
ACQUIRED STAGE UNKNOWN																							
CONGENITAL					1												2						3
TOTAL			5	4	3	3	8	102	977	3055	2910	3359	2019	1364	1413	752	527	171	47	21	107	148	16995

GONORRHEA: Male 2158 Female 1949

NGU/MPC: Male 5769 Female 6984

SYPHILIS: Male 86 Female 46

Incidence Rates for Non-Gonococcal Urethritis/ Mucopurulent Cervicitis, Gonorrhea and Syphilis Tables 2, 3 and 4

In 1987, the second complete year of reporting of NGU/MPC, the incidence rate rose by 17.7% from 449/100,000 in 1986 to 528/100,000. The number of cases rose less than this, 15.4% over the same period, reflecting the change in the population of Alberta.

Of concern are the age and gender-specific rates. The two highest rates occur in females aged 15–19 years and 20–24 years. These rates are 2622/100,000 and 2456/100,000 respectively. The percentage increase over 1986 was 33.1% in the 15–19 year old female group and 35.8% in the 20–24-year-old female group. It is in the 15–24 age group that women run the highest risk of developing pelvic inflammatory disease. This may subsequently lead to infertility and ectopic pregnancy.

Males, aged 20–24 years and 25–29 years, had the next highest age-specific rates. The rate rose by 13.2% in the younger of the two groups, but fell by 1.2% in the older group when compared to 1986.

The gonorrhea rate continued to decline steadily with a drop of 27.6% over 1986 noted. This year's rate of 147/100,000 is the lowest since records were established in 1950. The highest rate continued to be in 15–19-year-old females, but this also represents a decrease of 13.6% over 1986. This group also demonstrated the lowest decline in gonococcal infection rates of any group.

The rate for syphilis in Alberta continued to fall. When compared to 1986, a 17.5% decline is noted. The female rate decreased by 26.9% in comparison to a 13.2% decline in the male rate.

It is noteworthy that the rates for NGU/MPC are rising while the rates for gonorrhea and syphilis steadily decrease. The highest age and gender specific groups for both gonorrhea and MPC are 15–19-year-old females who are at highest risk of long-term damage to the reproductive system. Both MPC and gonorrhea are asymptomatic in the majority of infected females, whereas most males are symptomatic and aware of infection.

Active contact tracing for laboratory-confirmed gonorrhea and infectious syphilis is carried out as one of many interventions in the STD Control program. Individuals diagnosed with NGU/MPC are encouraged to refer their sexual partners to a physician or a STD clinic for diagnosis and treatment. Active contact tracing in cases of NGU/MPC is undertaken in selected circumstances.

ALBERTA DISEASE INCIDENCE
EXPRESSED AS A RATE PER 100,000 POPULATION

TABLE 2
NON-GONOCOCCAL URETHRITIS/MUCOPURULENT CERVICITIS

	AGE							
SEX	<15	15-19	20-24	25-29	30-39	40-59	60+	TOTAL
MALE	1.72	688.51	2013.30	1189.87	481.43	150.77	13.29	475.60
FEMALE	26.39	2621.77	2455.72	859.78	287.17	56.30	6.50	580.83
TOTAL	**13.74**	**1633.92**	**2237.72**	**1025.88**	**386.95**	**104.62**	**9.58**	**527.92**

TABLE 3
GONORRHEA

	AGE							
SEX	<15	15-19	20-24	25-29	30-39	40-59	60+	TOTAL
MALE	3.43	360.90	738.84	393.99	156.81	63.03	13.29	177.92
FEMALE	13.02	804.71	636.53	229.97	72.64	13.40	1.95	115.52
TOTAL	**8.10**	**577.94**	**686.94**	**312.50**	**115.87**	**38.81**	**7.10**	**146.90**

TABLE 4
SYPHILIS

	AGE							
SEX	<15	15-19	20-24	25-29	30-39	40-59	60+	TOTAL
MALE	0.34	0.00	10.45	11.87	9.63	10.65	10.16	7.19
FEMALE	0.00	2.24	6.46	3.21	4.36	6.70	5.20	3.80
TOTAL	**0.18**	**1.10**	**8.42**	**7.56**	**7.07**	**8.72**	**7.45**	**5.50**

Notifications by Reporting Agency
Tables 5 and 6, Figures 1 and 2

The most frequently reported disease in 1987 was non-gonococcal urethritis/mucopurulent cervicitis (NGU/MPC). Physicians reported 6768 of the 12,753 total cases. This is an increase of 37.2%. When chlamydia isolation (for which no notification was received) is added, physicians contributed 59.1% of the total cases of NGU/MPC. Over the same period of time, the three STD Clinics reported 5215 cases, representing a 7.2% decrease over 1986.

The increase in physician diagnosed cases of NGU/MPC may indicate that physicians are examining more of their patients for the syndrome. Wide-spread use of Chlamydiazyme® and Microtrac® to identify chlamydia may also have played a role, because of associated high false positive rates in low prevalence populations.

The number of cases of gonorrhea continued to decline, following the trend established in 1982. The last year that cases of gonorrhea fell below the 4,107 reported in 1987 was in 1969. Physicians' notifications and laboratory-confirmed disease (for which no notification form was received) contributed 2,909 or 70.8% of the total.

The male-to-female ratio for NGU/MPC in cases reported by physicians is 1:2.8. In STD clinics this ratio is 4:1. This illustrates that women are more likely than men to seek diagnosis and treatment from a physician. Men are more likely than women to seek diagnosis and treatment at the STD clinics.

There is less difference in service access when gonorrhea is diagnosed. The male-to-female ratios are 1:1.2 and 2:1.1 in the physician's office and STD clinics respectively. Even though the difference in service utilization is not as marked, twice as many men as women were diagnosed as having gonorrhea in the STD clinics.

TABLE 5

ALBERTA : 1987

CASES OF NON-GONOCOCCAL URETHRITIS/MUCOPURULENT CERVICITIS ACCORDING TO REPORTING AGENCY BY AGE AND SEX

	< 1		1-4		5-9		10-14		15-19		20-24		25-29		30-39		40-59		60+		AGE N/S		TOTAL
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
PHYSICIAN			2	1			3	48	247	1771	761	1880	466	737	229	353	66	69	3	8	54	71	6769
EDMONTON CLINIC				1				2	223	248	753	335	576	131	514	115	202	40	7	2	5	2	3156
CALGARY CLINIC								2	136	129	519	194	416	106	279	67	72	9	5				1934
FT.MCMURRAY CLINIC								1	15	27	20	15	14	8	11	5	8		1				125
CORRECTIONAL INSTITUTE									1				1										2
POSITIVE CULTURE				1		2		15	19	161	67	239	31	91	17	53	6	8	1		19	38	768
TOTAL			**2**	**3**		**2**	**3**	**68**	**641**	**2336**	**2120**	**2663**	**1504**	**1073**	**1050**	**593**	**354**	**126**	**17**	**10**	**78**	**111**	**12754**

TABLE 6

ALBERTA : 1987

CASES OF CONFIRMED GONORRHEA ACCORDING TO REPORTING AGENCY BY AGE AND SEX

	< 1		1-4		5-9		10-14		15-19		20-24		25-29		30-39		40-59		60+		AGE N/S		TOTAL
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
PHYSICIAN			2		1	1	1	26	201	509	475	488	249	205	179	102	73	22	10	3	22	21	2590
EDMONTON CLINIC					1		2	1	65	89	144	90	108	34	85	21	47	3	4		2		696
CALGARY CLINIC							1	1	46	53	101	45	96	15	52	11	14	2	1				438
FT.MCMURRAY CLINIC								1	8	13	13	6	8	2	6	1	1						59
CORRECTIONAL INSTITUTE								1	1		1		1										4
POSITIVE CULTURE			1	1			1	3	15	53	44	61	36	31	20	15	13	3	2		5	15	319
TOTAL			**3**	**1**	**2**	**1**	**5**	**33**	**336**	**717**	**778**	**690**	**498**	**287**	**342**	**150**	**148**	**30**	**17**	**3**	**29**	**36**	**4106**

FIGURE 1

ALBERTA: 1987

PERCENTAGE OF REPORTED CONFIRMED CASES OF NON-GONOCOCCAL URETHRITIS/MUCOPURULENT CERVICITIS AND GONORRHEA BY REPORTING AGENCY

NON-GONOCOCCAL URETHRITIS/MUCOPURULENT CERVICITIS

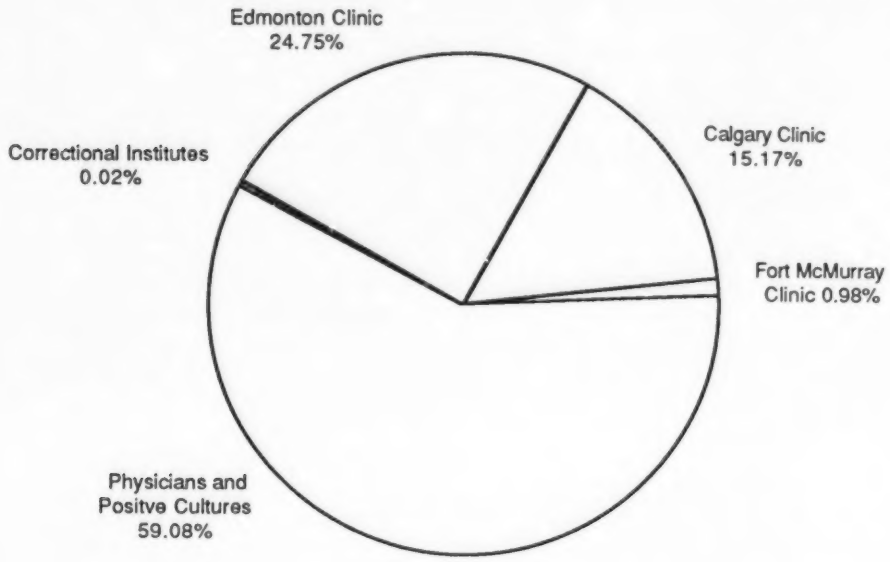
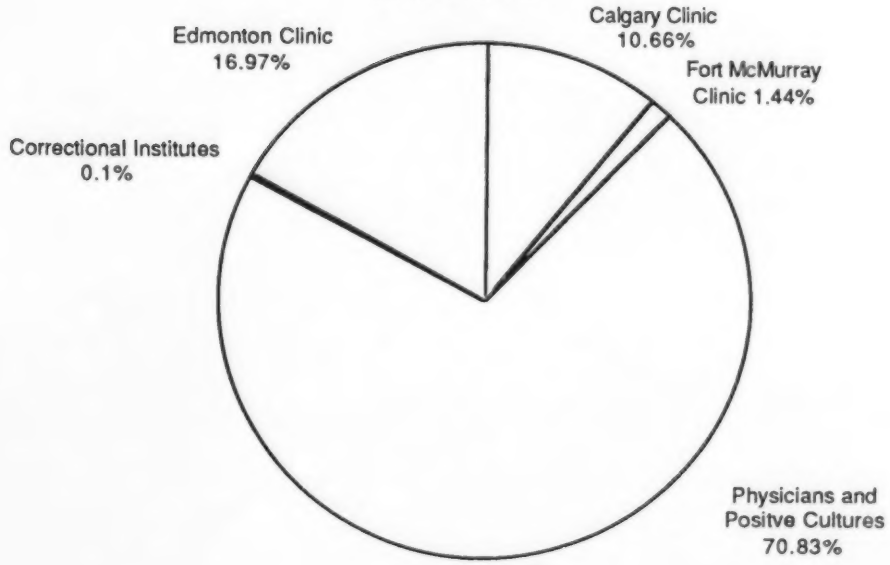


FIGURE 2

GONORRHEA



Syphilis and Gonorrhea Trends Since 1950
Table 7, Figure 3

The large, steady decline in gonorrhea first noted in 1982, continues. At 147/100,000 population, the gonorrhea rate is lower than that at any time in the past 38 years. The number of cases reported is at its lowest level since 1969. The syphilis rate is also lower than that at any time since 1950. The number of cases is at its lowest point since 1976.

Comparison of Non-Gonococcal Urethritis/Mucopurulent Cervicitis in 1986 and 1987

The NGU/MPC rate increased by 17.7% over 1986 and the number of cases by 15.4%. This may reflect an increase in actual incidence of disease in the province. However, as 1987 is only the second complete year that NGU/MPC has been a reportable disease (under the Public Health Act, Communicable Disease Regulations, 1985), it possibly reflects that physicians are more aware of the disease and are diagnosing and reporting a higher number of cases. The use of newer diagnostic tests, Microtrac® and Chlamydiazyme® may also have had an impact on the rate of NGU/MPC.

TABLE 7

ALBERTA : 1950–1987

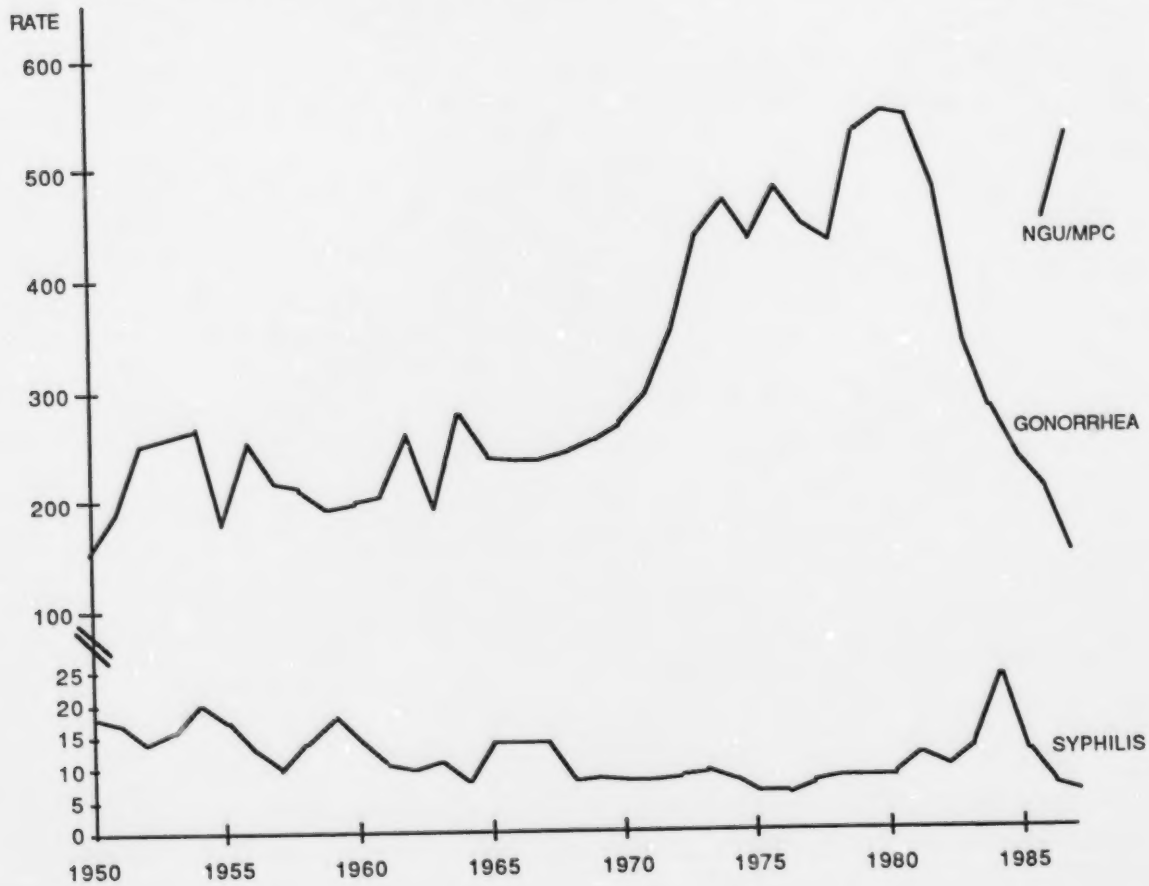
SYPHILIS, GONORRHEA AND NON-GONOCOCCAL URETHRITIS/MUCOPURULENT CERVICITIS CASES AND RATES PER 100,000 POPULATION

	GONORRHEA		SYPHILIS			GONORRHEA		SYPHILIS		NGU/MPC	
YEAR	CASES	RATES	CASES	RATES	YEAR	CASES	RATES	CASES	RATES	CASES	RATES
1950	1981	152.0	165	18.1	1969	3967	254.3	133	8.5		
1951	1777	189.1	157	16.7	1970	4290	268.1	134	8.0		
1952	2450	251.8	135	13.9	1971	4806	294.1	127	7.8		
1953	2508	257.7	159	15.7	1972	5842	353.2	143	8.6		
1954	2819	266.7	212	20.1	1973	7300	434.5	158	9.2		
1955	2862	180.1	189	17.3	1974	8036	466.9	136	7.8		
1956	2842	253.0	145	12.9	1975	7341	432.4	121	5.9		
1957	2499	215.4	112	9.7	1976	8657	480.3	108	5.7		
1958	2548	211.3	167	13.8	1977	8208	446.6	132	7.2		
1959	2407	192.9	226	18.1	1978	8451	430.9	165	8.4		
1960	2560	198.3	186	14.4	1979	10730	529.9	173	8.5		
1961	2712	203.6	140	10.5	1980	11474	547.8	181	8.6		
1962	3560	260.0	134	9.8	1981	11692	540.2	255	11.8		
1963	4106	192.7	155	11.0	1982	11066	476.3	225	9.7		
1964	3953	276.7	110	7.7	1983	8021	339.7	306	13.0		
1965	3455	238.3	203	14.0	1984	6712	279.9	574	23.9		
1966	3447	235.7	208	14.2	1985	5690	233.1	290	11.9		
1967	3527	236.7	203	13.6	1986	4991	203.0	162	6.7	11051	448.7
1968	3729	244.4	118	7.7	1987	4107	146.9	132	5.5	12753	527.9

FIGURE 3

ALBERTA:

INCIDENCE RATE PER 100,000 POPULATION FOR SYPHILIS, GONORRHEA AND NON-GONOCOCCAL URETHRITIS/MUCOPURULENT CERVICITIS 1950–1987



Penicillinase-Producing *Neisseria Gonorrhoeae* (PPNG) in Alberta, 1977–1987 Figure 4

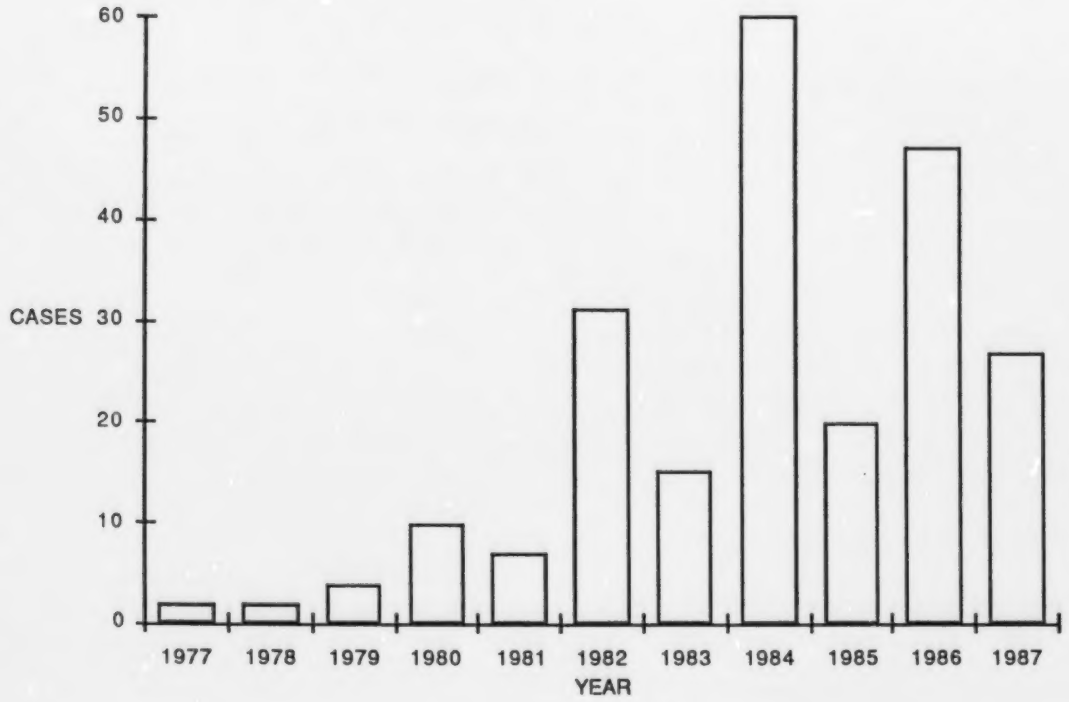
Since the first case of PPNG was identified in Alberta in 1977, there has been a total of 225 cases recorded.

There were 27 cases of PPNG in 1987, a decrease of 20 cases or 43% from 1985.

Of the total cases in 1987, 17 individuals identified Canadian contacts only, and nine (34.6%) had contact in endemic areas only. This differs considerably from 1986 when 55.3% of cases identified sexual contact in an endemic area outside Canada. This suggests the establishment of PPNG endemicity in Canada.

FIGURE 4

CASES OF PENICILLINASE-PRODUCING *NEISSERIA GONORRHOEAE* (PPNG) IN ALBERTA 1977–1987



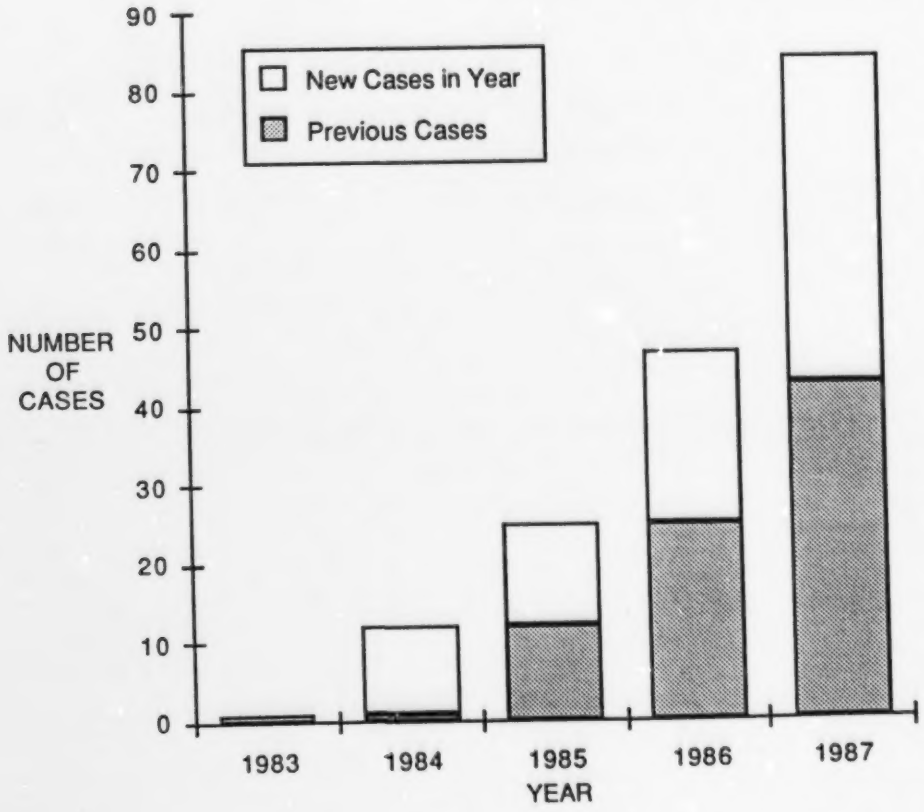
Acquired Immunodeficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) Infection in Alberta
Tables 8-11, Figures 5-7

Figure 5 shows the reported cases of AIDS in the province since the first was reported in 1983. The figure illustrates both the number of new cases each year, and the cumulative total. During 1987, 41 new cases were reported, an 86% increase over the 22 in 1986. The number of AIDS cases continued to increase, but there was some indication that the rate of increase was falling. The "doubling time" for cases has slowed from just under 12 to 13 months in 1985-86, to 14 months in 1987.

FIGURE 5

ALBERTA, 1983–1987

NEW AND CUMULATIVE AIDS CASES, BY YEAR REPORTED



On a regional basis, Calgary continued to have the highest cumulative number of cases, as is shown in Table 8. Also in Table 8 are the number and the proportions of patients who were reported to have died.

TABLE 8

ALBERTA, 1983–1987:

CUMULATIVE AIDS CASES BY LOCATION AND STATUS

LOCATION	TOTAL CASES	ALIVE		DECEASED	
		NUMBER	PERCENT	NUMBER	PERCENT
CALGARY	43	12	28%	31	72%
EDMONTON	32	14	44%	18	56%
NORTH*	6	4	67%	2	33%
SOUTH	7	3	43%	4	57%
TOTAL	**88**	**33**	**38%**	**55**	**63%**

* Refers to the City of Red Deer and North

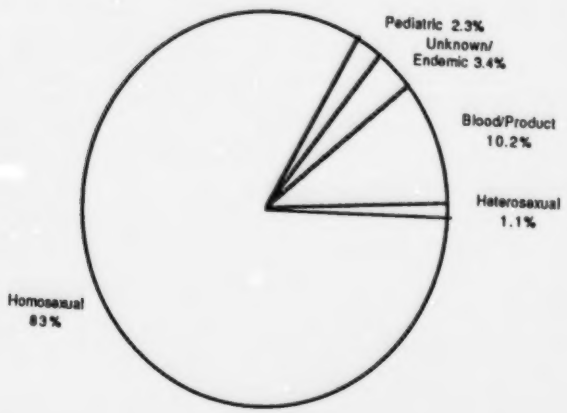
The distribution of cumulative AIDS cases according to the risk factor or behaviour is shown in Figure 6. Seventy-three (73) of the 88 cases to date have been males with homosexual or bisexual activity, of whom five had also used drugs intravenously. Another nine cases have resulted from the receipt of blood or blood products, of whom three have been hemophiliacs. Heterosexual contact has resulted in one female case. Another case was acquired from a blood transfusion in an endemic area, and there have been two cases for which the source of infection is not clear (one of these is still under investigation). Two children who were diagnosed with AIDS in 1983, were born to parents from an endemic area, and have subsequently died. This distribution differs slightly from the rest of Canada, in that only 1% of Alberta's cases are classified as from endemic areas (compared to 5% nationally), and no cases have been associated solely with intravenous drug use (versus 0.6% nationally).

There have been six cases of AIDS in females, of whom four acquired their infection through blood transfusion, one through heterosexual contact and the other was one of the children (by maternal/fetal transfer).

FIGURE 6

ALBERTA, 1983–1987

CUMULATIVE AIDS CASES BY RISK FACTOR

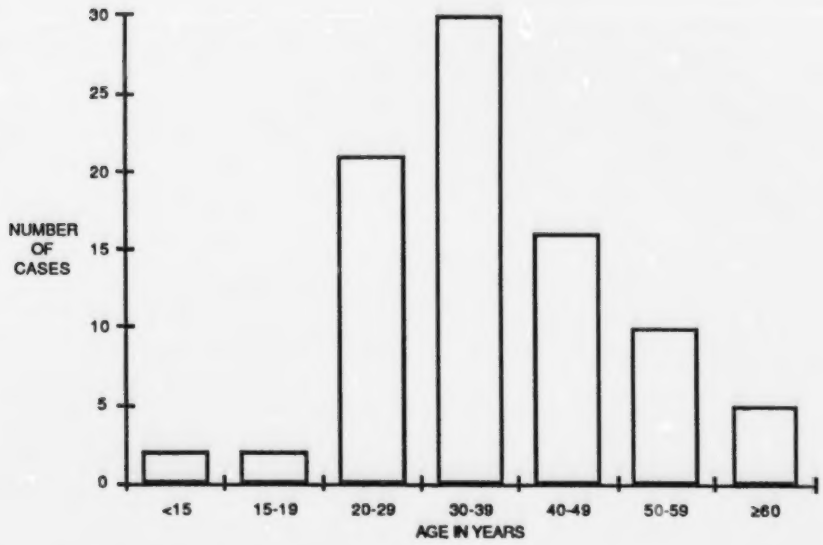


AIDS continued to be a disease of young adults, as can be seen from Figure 7 (age was not specified for two cases). The age groupings are similar to those reported elsewhere in North America and Europe.

FIGURE 7

ALBERTA, 1983–1987:

AGES OF AIDS PATIENTS



The primary diagnosis of the patients to date is shown in Table 9, as is their status to year-end.

TABLE 9

ALBERTA, 1983–1987:

AIDS PATIENTS' PRIMARY DIAGNOSIS AND STATUS

	TOTAL CASES		STATUS *		
PRIMARY DIAGNOSIS	NUMBER	PERCENT	DEAD	LIVING	LIVING PERCENT
PNEUMOCYSTIS CARINII PNEUMONIA (PCP)	45	51%	30	15	33%
KAPOSI'S SARCOMA (KS)	14	16%	8	6	43%
PCP AND KS	8	9%	8	0	0%
OTHER OPPORTUNISTIC INFECTIONS	18	20%	13	5	38%
LYMPHOMA	3	3%	1	2	66%
TOTAL	**88**	**99%**	**60**	**28**	**32%**

* Figures differ from others in this report due to additional data becoming available following calendar year end.

Human Immunodeficiency Virus (HIV) Testing

Routine testing of all donated blood for antibody to HIV (an indication of infection) was introduced by the Red Cross in Alberta in late September 1985. "Diagnostic" testing was begun at the Provincial Laboratories of Public Health in Edmonton and Calgary by January 1, 1986. Initial testing is done using an enzyme linked immunosorbent assay (ELISA), with confirmation of positives by either the indirect immunofluorescent antibody or western blot tests. Individuals with only positive tests (seropositives), who do not fit the case definition of AIDS, are not reportable in Alberta. However, summary test results are provided to the Provincial Epidemiologist by the Red Cross Blood Transfusion Services and the Provincial Laboratories in Calgary and Edmonton.

Information on test results in 1986 and 1987 is given in Table 10. The dramatic increase in testing at the Provincial Laboratories from 1986 to 1987 likely indicates an increased awareness and concern about AIDS. The decreasing proportion of positives reflects testing of increased numbers of persons at lower risk. A Red Cross Transfusion Service "Look Back" campaign is aimed at recipients of blood transfusions before October 1985, whose donors were subsequently found to be seropositive. Many other individuals, who received transfusions prior to 1985, have been encouraged by their physicians to have tests. In the Red Cross Blood Transfusion Service screening program, over a quarter of a million donations have been screened and only 32 positives detected. It should be noted, however, that there was only one positive in the last seven months of 1987. This suggests that the Red Cross pre-donation counselling was very successful in achieving self-deferral of individuals with any possible risk factors. It also suggests that HIV infection in the general population in whom no risk factors were identified was negligible.

TABLE 10

ALBERTA, 1986–1987:

RESULTS OF HIV ANTIBODY TESTING

YEAR	TESTING AGENCY	TOTAL TESTS	POSITIVES	
			NUMBER	PERCENT
1986	RED CROSS	156,304	26	.0016%
	PROVINCIAL LAB.	2,186	212	9.8000%
1987	RED CROSS	122,443	6	.004%
	PROVINCIAL LAB.	12,862	319	2.480%
TOTALS	**RED CROSS**	**278,747**	**32**	**.011%**
	PROVINCIAL LAB.	**15,018**	**531**	**3.53%**

As can be seen from Table 11, although homosexual exposure was the principle reason for testing in 1986 (approximately 1/3 of tests), previous blood transfusion became the most common reason for testing in 1987 (approximately 20% versus 4% in 1986). The next largest group tested in 1987 was homosexually active males (13%). The results apply only to those who chose to be tested and cannot be generalized to either those with risk factors or to the general population. Because HIV seropositivity is not reportable by name, some persons may have been tested several times, but this would cause only a small inflation of the numbers. The overall rate of 15% seropositivity for those with homosexual exposure may not be representative of those who are homosexual, since those tested were self-selected. However, the decrease in positivity from 21% in 1986 to 12% in 1987 does suggest testing and counselling were being sought earlier, at a time when intervention or behaviour modification may still prevent infection.

Again, while no generalizations are possible for intravenous drug abusers, infection has been introduced among people with this activity. This rate is comparable to surveys of non- institutionalized IV drug users in other parts of the country.

TABLE 11

ALBERTA, 1986–1987:

RESULTS OF HIV ANTIBODY TESTS BY PROVINCIAL LABORATORIES, BY RISK FACTOR

		TOTAL TESTS	POSITIVES	
RISK FACTOR	YEAR		NUMBER	PERCENT
HOMO/BISEXUAL EXPERIENCE	1986	766	163	21%
	1987	1,686	203	12%
	TOTAL	**2,452**	**366**	**15%**
BLOOD TRANSFUSION	1986	91	2	2%
	1987	2,796	28	1%
	TOTAL	**2,887**	**30**	**1%**
HEMOPHILIA	1986	6	5	83%
	1987	24	8	33%
	TOTAL	**30**	**13**	**43%**
DRUG ABUSE	1986	UNKNOWN	2	UNKNOWN
	1987	975	5	0.5%
	TOTAL	**N/A**	**7**	**N/A**
OTHER* AND	1986	1,293	40	3%
UNSTATED POSITIVES	1987	7,381	75	1%
	TOTAL	**8,674**	**115**	**1%**

*"Other" includes heterosexual exposure, endemic areas, anxiety, symptoms, etc.

Notifications and Contact Information
Table 12

Table 12 outlines both the total number of sexual contacts that were named by patients utilizing the services of the various reporting agencies and the number of those contacts for whom sufficient information was forwarded to permit investigations to be initiated.

The number of notifications received from physicians increased by 19.5% over 1986, while the number received from all other sources decreased. The decreases were 60.5% from Fort McMurray, 13.3% from Edmonton Clinic, 9.7% from Calgary Clinic and 20% from the correctional institutes. These figures are based on notifications of confirmed disease only.

The number of contacts listed per notification varied widely among reporting agencies. Physicians reported an average of 0.5 contacts per notification, whereas the STD clinics reported an average of 1 contact per notification. This difference is further illustrated when looking at the number of contacts listed where sufficient information to allow investigation was received. Of the total notifications received, physicians listed 0.2 contacts per notification with sufficient information to allow investigation. In comparison, the STD clinic in Calgary listed 0.9 contacts and Edmonton and Fort McMurray clinics 0.8 contacts with enough information to permit investigation. This is consistent with the 1986 figures.

In Table 12, the total number of notifications received is 1085 less than the number of cases of notifiable disease recorded in Table 1. A positive culture, received from a laboratory (for which no notification form is received) is tabulated as a diagnosed notifiable disease.

Mobile Clinic figures do not appear in this table, because most patients located by nurse investigators were directed to a physician for disease confirmation and, therefore, were not interviewed by the investigator.

TABLE 12

ALBERTA : 1987

NUMBER OF CONTACTS LISTED ON NOTIFICATIONS RECEIVED FOR CONFIRMED CASES OF GONORRHEA, NGU/MPC, SYPHILIS

REPORTING AGENCY	TOTAL NOTIFICATIONS RECEIVED	CONTACTS — TOTAL LISTED ON NOTIFICATIONS	CONTACTS SUFFICIENT INFORMATION FOR INVESTIGATIONS
PHYSICIANS	9428	4732	2236
EDMONTON CLINIC	3881	3861	2979
CALGARY CLINIC	2405	2291	2055
FT. MCMURRAY CLINIC	188	186	148
CORRECTIONAL INSTITUTE	8	4	2
TOTAL	**15910**	**11074**	**7420**

Contact Investigations by Sexually Transmitted Disease Clinics
Table 13

Investigations, conducted by nurse-investigators from each of the STD clinics, include the follow-up of contacts to cases of confirmed gonorrhea and syphilis and the location of individuals for whom a positive syphilis serology has been received but no record of treatment is available. Investigations of laboratory-confirmed *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, when treatment is not confirmed, are carried out for high risk individuals.

The total number of contact investigations declined by 9.7% compared to that of 1986. This is consistent with the decline in the incidence of gonorrhea and syphilis.

The percentage of contacts traced by individual clinics continues to vary widely. Mobile clinic successfully completed 93.3% of contact investigations undertaken. This is an increase of 2.5% over 1986. Calgary, Edmonton and Fort McMurray clinics successfully completed 91.9%, 84.3% and 70.6% respectively, a slight decrease over 1986.

The change in the percentage of successfully completed investigations can be attributed to staffing patterns in different clinics. Mobile had no changes of personnel in 1987, whereas all other clinics did.

Investigations of contacts to gonorrhea are closed after three months, while those to syphilis remain open for up to one year. 13.2% of contact investigations were closed with failure to locate the contact in 1987, compared to 11.7% in 1986.

The number of positive test investigations undertaken in 1987 increased by 61% over 1986. These are investigations to locate individuals for whom a positive laboratory report indicative of a notifiable STD has been received but not a notification form.

The dramatic increase in the number of positive test investigations in 1987 may be attributed to increased physicians' awareness of NGU/MPC, and subsequently increased testing using non-culture techniques to identify chlamydia. The non-culture tests provide occasional false positive results in populations where disease incidence is low.

TABLE 13

ALBERTA : 1987

NUMBER AND OUTCOME OF INVESTIGATIONS CARRIED OUT BY SEXUALLY TRANSMITTED DISEASE CLINICS

	CONTACT INVESTIGATIONS			POSITIVE TEST INVESTIGATIONS*		
CLINICS	LOCATED	CLOSED/ UNLOCATED	REMAINING OPEN	COMPLETED	REMAINING OPEN	TOTAL
EDMONTON	901 (84.3%)	168	23	785	13	1890
CALGARY	566 (91.9%)	50	21	250	31	918
FT.MCMURRAY	113 (70.6%)	47	6	34	2	202
MOBILE	918 (93.4%)	65	25	616	69	1693
TOTAL	**2498 (83.3%)**	**330**	**75**	**1685**	**115**	**4703**

* Follow-up to positive cultures and serology.

Sexually Transmitted Disease Clinics: Workload Tables 14 and 15

The number of new admissions to Edmonton clinic in 1987 was 4,483, an increase of 7.9% over 1986. Those in Calgary and Fort McMurray, with 3,543 and 283 new admissions respectively, declined by 0.7% and 24.3%.

Both Edmonton and Calgary clinics recorded an increase in total patient visits, compared to 1986. Edmonton Clinic's increase was 4.1%, with 16,671 total visits, while Calgary clinic's increase was 1%, with 11,300 total visits. Fort McMurray, with 961 total visits, declined by 21.5% over 1986. Fort McMurray's large drop in visits reflects the population decline with changing economic forces in the area. Mobile Clinic's total patient visits increased by 25.7% over 1986, to a total of 581.

The clinic workload increase is more accurately reflected in the number of tests performed for HIV antibody in 1987. In Edmonton, there was an increase of 625% (609 tests), in Calgary an increase of 151% (332 tests) and in Fort McMurray an increase of 220% (16 tests) over 1986. Each patient, who is tested for HIV, requires in-depth information on the implications and limitations of the test, both from a medical point of view and the possible impact of the test result on the psychological and economic life of the individual. This pre-test counselling is undertaken by either the clinic physician or a specially trained clinic nurse. Risk reduction behavior is also discussed with the patient. The patient must return to the clinic for test results, and further counselling on interpretation of the results and risk avoidance/reduction is provided.

The number of tests for HIV performed reflects only a portion of individuals who seek counselling at the clinics for HIV related concerns. Follow-up of seropositive individuals and counselling of many concerned patients further increased the average amount of time devoted to each patient.

TABLE 14

ALBERTA : 1987

SEROLOGIC TEST FOR SYPHILIS AND HIV* ANTIBODY

SEROLOGICAL TESTS	EDMONTON	CALGARY	FT. MCMURRAY	MOBILE**
SYPHILIS:				
CLINIC PATIENTS	8328	6207	391	38
PRE-MARITAL	2911	4485	1	0
HIV ANTIBODY	609	332	16	0
TOTAL	**11848**	**11024**	**408**	**38**

TABLE 15

PATIENT UTILIZATION OF S.T.D. CLINICS

SEROLOGICAL TESTS	EDMONTON	CALGARY	FT. MCMURRAY	MOBILE**
NEW ADMISSIONS	4483	3543	283	0
TOTAL VISITS	**16671**	**11300**	**961**	**581**

*HIV — Human Immunodeficiency Virus

** Mobile Clinic records visits made to patients by nurse investigators.

Sexually Transmitted Disease Clinics Laboratory Investigations
Table 16

In 1987, the total number of urethral smears taken by all the STD clinics increased by 5.4%, while the number of positive smears decreased by 5.9%. Urethral smears are taken to both diagnose and ensure successful treatment of urethritis.

Urethral smears are taken simultaneously for NGU and gonorrhea. The number of positive smears for gonorrhea decreased by 32.2% and for NGU by 6%. This reflects the decrease in the incidence rate of gonorrhea in the province and of the number of men diagnosed with NGU in the clinics.

The number of male urethral cultures taken for gonorrhea decreased by 30.9% and positive urethral cultures by 45.6%. The number of male rectal cultures increased by 19.2% over 1986. Thirty of the 663 male rectal cultures taken were positive, an increase of 15.4%.

Positive cultures for gonorrhea in males from all sites, urethra, rectum and pharynx declined by 42.9% over 1986.

Positive gonorrhea cultures from the cervix, urethra, rectum and pharynx in women decreased by 31.9%, when compared to 1986. The largest decline of 42.9% was from the cervix/urethra. The smallest decline (10.4%) was observed in positive gonococcal pharyngeal cultures.

Darkfield examinations for *Treponema pallidum* performed decreased by 27.3% over 1986, while the number of positive darkfield examinations decreased by 85.7%. This corresponds to the very low incidence of infectious syphilis in the province.

The number of specimens taken for *Chlamydia trachomatis* increased by 3.5%, and the number of positive tests by 9.7% over 1986. These figures reflect both an increase in NGU/MPC and the use of direct antigen methods to detect infections caused by *Chlamydia trachomatis*.

Positive cultures for *Herpes simplex* virus declined by 9.6%, compared to 1986. Edmonton Clinic's number of *Herpes simplex* positive cultures increased by 1.0%, while Calgary and Fort McMurray clinics had a decline of 2.3% and 30.2% respectively.

TABLE 16

ALBERTA 1987: SEXUALLY TRANSMITTED DISEASE CLINICS LABORATORY INVESTIGATIONS

		EDMONTON CLINIC		CALGARY CLINIC		FT. MCMURRAY CLINIC		TOTAL	
		TAKEN	POSITIVE	TAKEN	POSITIVE	TAKEN	POSITIVE	TAKEN	POSITIVE
URETHRAL SMEARS FOR									
NON-GONOCOCCAL URETHRITIS		6648	2770	5450	1501	216	53	12314	4324
URETHRAL SMEARS FOR *N. GONORRHOEAE*		6648	404	5450	234	216	29	12314	667
GONORRHEA CULTURES									
MALE	URETHRAL	6399	482	4747	280	264	28	11410	790
	RECTAL	390	14	273	16			663	30
	PHARYNGEAL	3071	36	1318	14	172	2	4561	52
	TOTAL	**9860**	**532**	**6338**	**310**	**436**	**30**	**16634**	**872**
GONORRHEA CULTURES									
FEMALE	CERVIX/URETHRA	7450	503	4186	127	450	36	12086	666
	RECTAL	6329	222	2587	58	186	7	9102	287
	PHARYNGEAL	5242	86	1938	32	126	3	7306	121
	TOTAL	**19021**	**811**	**8711**	**217**	**762**	**46**	**28494**	**1074**
DARKFIELD MICROSCOPY		101	0	16	1	3	0	120	1
CULTURE—*C. TRACHOMATIS*		9192	880	6601	755	574	81	16367	1716
CULTURE—*HERPES SIMPLEX*		1575	331	801	239	112	23	2488	593
CULTURE—*CANDIDA ALBICANS*		2943	487	1188	323	482	106	4613	916
MICROSCOPY—*TRICHOMONAS VAGINALIS*		2936	137	1105	97	465	17	4506	251
CULTURE—*GARDNERELLA VAGINALIS*		578	177	530	291	216	70	1324	538

Education Activities
Tables 17 and 18, Figure 8

The education unit of Sexually Transmitted Disease Control provides resource personnel for consultation and delivery of sexually transmitted disease information to a wide variety of individuals and audiences.

During November and December, the number of educators working in the education unit was increased from three to seven. This staff increase was a response to the need to educate Albertans about AIDS and to promote election of low risk behaviours.

During 1987, the education unit increased presentations by 5.8%, and the medical staff by 80% when the 16 presentations given to television and radio audiences are included. Education unit staff reached a total of 21,686 people during the course of their presentations.

The change in focus of the education unit, from providing information directly to Alberta's youth, to providing information to those who teach in classrooms across the province, is reflected in the 527 teachers who received sessions. It is further illustrated by the 111.5% increase in the number of sessions provided to college students who are the teachers of the future. The drop of 12.6% in sessions undertaken in junior high schools, compared to 1986, indicates the number of students receiving information from their own teacher within the framework of the sexuality theme of the new junior high school health curriculum.

The number of presentations to hospital staff increased by 3.8% over 1986. This increase continues to be stimulated by the need for information on AIDS with a secondary need to update information on other sexually transmitted diseases, especially NGU/MPC.

The number of individuals attending STD clinics for clinical experience remained constant at 130 individuals in both 1986 and 1987. This number is the maximum that can be accommodated in the clinics.

The Education Unit of STD Control is responsible for answering both the STD information line, and after December 1, 1987, the provincial toll-free AIDS information line.

The STD information line is answered by a clinic nurse or nurse educator in Calgary Clinic and by a nurse educator in STD Control in Edmonton. The line is accessed by both the general public and health care providers seeking information. Figure 8 shows the number of calls received on this line each month. The total number of calls received was 6430: (2125 in Calgary and 4305 in Edmonton). Of the total calls received on this line, 32% of callers wanted AIDS information only.

The AIDS information line received 753 calls in December. This line is accessed by using a toll-free, 1-800 number and is answered by STD Control in Edmonton.

TABLE 17

ALBERTA, 1987:

SEXUALLY TRANSMITTED DISEASE — EDUCATION PRESENTATIONS

TYPE OF PRESENTATION	NUMBER	NO. OF PARTICIPANTS
BY EDUCATION UNIT:		
• SCHOOLS:		
– JUNIOR HIGH	214	5326
– SENIOR HIGH	196	6224
– COLLEGE	55	2481
– NURSING/HEALTH CARE	15	385
• INSERVICE:		
– HOSPITALS	81	2388
– HEALTH UNITS	22	352
– TEACHERS	21	527
– *OTHERS	14	374
• LIFE SKILLS/ADULT IMPROVEMENT	62	1156
• GENERAL PUBLIC	46	1692
• CORRECTIONAL INSTITUTES (STAFF AND INMATES)	25	781
TOTAL	**751**	**21,686**
BY MEDICAL STAFF:		
• PROFESSIONAL GROUPS	47	
• MEDIA	16	
• INTERVIEWS WITH MEDIA	241	
TOTAL	**304**	
INDIVIDUALS ATTENDING STD CLINIC FOR CLINICAL EXPERIENCE		
• PHYSICIANS/MEDICAL STUDENTS	115	
• NURSING STUDENTS	15	
TOTAL	**130**	

*Others: Government and non-government agencies providing service to the public.

Of the above presentations 49 provided information on AIDS only. The remainder provided information on STD including AIDS.

TABLE 18

ALBERTA: 1987

SEXUALLY TRANSMITTED DISEASE CONTROL INFORMATION CALLS

CALLS RECEIVED	
• CALGARY:	
– STD (EXCLUDING AIDS)	1369
– AIDS ONLY	756
TOTAL	**2125**
• EDMONTON:	
– STD (EXCLUDING AIDS)	2999
– AIDS ONLY	1306
TOTAL	**4305**
• COMBINED TOTALS:	
– STD (EXCLUDING AIDS)	4368
– AIDS ONLY	2062
TOTAL	**6430**
• AIDS TOLL-FREE LINE:	
– DECEMBER 1987 ONLY	541
TOTAL	**541**

FIGURE 8

EDUCATION ACTIVITIES

TOTAL NUMBER OF CALLS TO STD-CONTROL: 1987